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Final Report

1.4-29

Survey of Commercial Hay Producers and Consumers in Saskatchewan

Conducted by Saskatchewan Forage Council

Funded by the Agriculture Development Fund

1.4-29

SASKATCHEWAN FORAGE COUNCIL

Survey of Commercial Hay Producers and Consumers in Saskatchewan

June, 1989

TANKA RESEARCH

EXECUTIVE SUMMARY,
SASKATCHEWAN FORAGE COUNCIL HAY CERTIFICATION SURVEY

In September, 1988, the Agriculture Development Fund provided funds (ERDA # 1.4-29) to the Saskatchewan Forage Council (SFC) to do a survey on the feasibility of establishing a Hay Certification service in Saskatchewan. The SFC tendered the bulk of the project and awarded it to Tanka Research of Regina; a smaller mailout component was done by Mr. R. E. Maltman on contract to the SFC.

Tanka surveyed 200 commercial hay producers (called "producers"), 304 beef producers and 196 dairy producers (called "consumers") by telephone. Interviewees were selected randomly and the resulting margin of error was set at 7%.

Mr. Maltman's information was derived from 38 mail-in responses from horse owners and 5 from alfalfa processors. This response rate is well above the 20% normally considered satisfactory for mailout surveys.

RESULTS

Hay Certification

Following a brief explanation of Hay Certification, respondents were asked if "a service like this is a good idea or a poor one." 85% of producers and 86% of consumers responded positively. In the mailout study, 84% of horse owners and 4 out of 5 dehy plant operators responded positively. Most common reason for support was a greater consistency in quality of hay for sale/purchase. 44% of consumers felt that $70 per certification was a reasonable price; 37% thought it too high and 20% had no opinion. The majority of both producer and consumer respondents felt the service should be delivered by a producer group such as the SFC rather than by individuals, industry or government.

In a free response to the question "can you suggest ways in which hay marketing can be improved, in order to benefit both buyers and sellers," the most common response was a grading/certification system. Second most common response was better advertising/listing services.

Buying and Selling Practices

For commercial hay producers, sale to established clients was the most common method used to sell hay. Second most common method was by advertising. For those citing advertising as their most common method of sale, 51% preferred newspaper and 28% preferred the Saskatchewan Feed and Forage Listing Service. Most sales occurred between July and December.

Beef producers indicated they purchase (rather than produce) 18% of their forage requirements in a normal year; dairy producers regularly purchase 41% of their needs. Horse owners on average purchase 53% of their hay needs. In dry years the figure jumps to 25% for cattlemen and 53% for dairymen. For those purchasing hay, the three most important parameters were quality, price and consistent supply, in that order. Horse owners specifically demanded dust and mold-free hay.

15% of all dairy, 5% of all beef producers, and 22% of horse owners regularly purchase some hay produced outside Saskatchewan.

Production Characteristics

The average commercial producer has 245 acres in hay production, with alfalfa being the primary hay crop. Round bales were the most common product. 68% of this group take two cuts, 25% take one, and 7% take three cuts. Average yield on dryland is estimated at 2.1 tons/acre. Irrigated producers estimate 3.5 tons/acre.

Period of first hay cut was very similar in all groups, with the majority falling in the period June 15 to June 30. Nearly half of all respondents never fertilize their hayfields. Commercial hay producers usually renovated their fields every 2-5 years, whereas beef and dairy producers tended to renovate theirs every 6-9 years.

RECOMMENDATIONS

1. A pilot hay certification system should be implemented by a producer group such as the Saskatchewan Forage Council.
2. Efforts should be made to enhance dissemination and availability of the hay listing service.
3. Commercial hay producers should be encouraged to produce a quality, consistent product and target a particular market.
4. Commercial hay producers should consult with various sectors of the "consumer" market, starting with the dairy sector, to determine feasibility of replacing out-of-province purchases with Saskatchewan-produced hay.
5. Programming should be developed to show all hay producers the benefits of early cutting, fertilization and other hay management techniques.

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APPENDIX A: Questionnaires

1.0 DEMOGRAPHIC CHARACTERISTICS

1.1 Total Acreage And Type of Hay Crop

In an opening question, all respondents were asked to estimate the number of acres they have in hay production.

As shown in Table 1 below, commercial hay producers report an average of two hundred and forty-five acres.

Lower figures are reported by the beef and dairy producers surveyed, with averages of two hundred and five acres and one hundred and seventy acres reported in each respective group.

As one might expect, among consumer groups, the reported number of acres increases proportionately with herd size.

"In total, how many acres do you have in hay production on your farm?"

TABLE 1
TOTAL ACREAGE IN HAY PRODUCTION
According to Sample

	PRODUCER	CONSUMER		
		Overall	Beef	Dairy
	%	%	%	%
None	-	15	12	20
Under 160	59	47	51	42
160-320	19	23	19	28
321-640	17	10	12	6
641-1280	4	4	5	3
Over 1280	2	1	1	1
Mean	245 acres	195 acres	205 acres	170 acres

Columns may not total 100% due to rounding.
Sample means are calculated by assigning the mid-point value in each range, and arbitrarily assigning a value of 80 and 1920 to the lower and upper ends.

The vast majority within both the producer (71%) and consumer (94%) samples have mostly dryland, as opposed to irrigated hay crops.

Nonetheless, irrigation is more prevalent among commercial hay producers (29%) than consumers (5%), at a ratio of about six to one.

Among those with mostly irrigated crops, sprinkler irrigation is found to be the more frequent form. This is especially true of those with larger hay operations.

Variation according to sample is shown in Table 2 below.

"And would this be mostly dryland or irrigated?"
(If irrigated) "Do you have flood or sprinkler irrigation?"

TABLE 2
USE OF IRRIGATION
According to Sample

	PRODUCER	CONSUMER		
		Overall	Beef	Dairy
	%	%	%	%
Dryland	71	94	97	90
Irrigated	29	5	3	9
Sprinkler	19	4	1	9
Flood	10	1	1	-
no answer	1	-	-	1

Columns may not total 100% due to rounding.

Most respondents within both the producer and consumer groups grow alfalfa as their primary hay crop.

As shown in the comparisons in Table 3 on the following page, brome is a more popular crop among the consumer group, especially among beef producers.

"What is your primary hay crop?"
"Do you have any other major hay crops?"

TABLE 3
PRIMARY HAY CROPS
According to Sample

	PRODUCER	CONSUMER		
		Overall	Beef	Dairy
	%	%	%	%
Alfalfa	93	83	78	92
Brome	26	44	50	33
Slough hay	11	12	16	4
Prairie Hay	4	5	6	2
Clover	3	6	6	5
Crested wheatgrass	2	4	7	1
Annual (wheat, barley, etc.)	2	14	10	20
Timothy	2	-	-	-
Other	1	-	-	-
no answer	-	1	1	1

Columns exceed 100% due to total mentions.

1.2 Hay Management Practices

1.2.1 Hay Cutting

Respondents were read a series of questions dealing with hay crop management. The first question deals with the number of cuttings normally taken on hay land.

As shown in Table 4 below, commercial hay producers report a normal average of about two cuttings. This compares with averages of about one cutting among beef producers, and one and one-half among dairy producers.

"How many cuttings do you normally take on your hay land?"

TABLE 4
NUMBER OF CUTTINGS
According to Sample

	PRODUCER	CONSUMER		
		Overall	Beef	Dairy
	%	%	%	%
One	25	68	80	48
Two	68	30	19	49
Three	7	1	-	1
Four	-	-	-	1
Over four	-	-	-	-
no answer	2	1	1	1
Mean	1.8	1.3	1.2	1.5

Columns may not total 100% due to rounding.

The majority (58%) of commercial hay producers say they take their first hay cut in June, between the fifteenth and thirtieth. The same holds true for dairy producers, at 62 percent.

Among beef producers, where less frequent hay cutting is reported, the majority (57%) reports to cut their hay between the first and the fifteenth of July.

Data comparing the first normal hay cut are shown in Table 5 below.

"When do you normally take your first hay cut?"

TABLE 5
PERIOD OF FIRST HAY CUT
According to Sample

	PRODUCER	CONSUMER		
		Overall	Beef	Dairy
	%	%	%	%
June 1 – June 15	6	4	1	8
June 15 – June 30	58	43	32	62
July 1 – July 15	29	47	57	28
July 16 – July 31	5	6	9	1
no answer	3	1	1	1

Columns may not total 100% due to rounding.

Respondents were also asked how they normally put up their hay. Majorities within the commercial hay producer and beef producer groups put their hay up in round bales.

Among dairy producers, square bales is found to be the most popular method. This can be seen from the data in Table 6 on the next page.

"How do you normally put up your hay?" (Four choices read)

TABLE 6
HOW HAY IS PUT UP
According to Sample

	PRODUCER	CONSUMER		
		Overall	Beef	Dairy
	%	%	%	%
Round bales	71	56	72	27
Square bales	26	36	24	58
Big square bales	1	-	-	1
Standing hay	-	1	2	1
Silage/Haylage	-	5	1	13
Other	1	-	-	-
no answer	1	-	-	1

Columns may not total 100% due to rounding.

Commercial hay producers were also asked to estimate the average yield for their hay fields, given normal conditions.

While 17% could not provide an answer, the majority claims to get three tons or less per acre. This includes those with less than two tons (33%) plus those producing two to three tons per acre (26%).

One-quarter of the commercial producers claim their average yield is over three tons per acres. That portion is made up of 13% claiming yields from 3.1 to 4 tons; 7% from 4.1 to 5 tons; and 5% over 5 tons.

As one might expect, producers with irrigated hay crops report higher yields than dryland producers:

Average Yield (tons/acre)

	Mean
Overall	2.6
Irrigated	3.5
Dryland	2.1

1.2.2 Fertilizing, Cultivating and Reseeding

A large portion within each group says they never **fertilize** their hay fields, given normal years.

Among those who do fertilize, once per year is the most common frequency across all groups.

"Given normal years, about how often do you fertilize your hay fields?"

TAFLE 7
FREQUENCY OF FERTILIZING
According to Sample

	PRODUCER	CONSUMER		
		Overall	Beef	Dairy
	%	%	%	%
Never	47	41	45	35
Less than every 5 years	4	9	9	9
Every 2 to 5 years	13	16	14	17
Every year	32	30	29	33
Twice per year	4	2	1	3
More than twice per year	-	1	-	2
no answer	2	1	2	1

Columns may not total 100% due to rounding.

Variation by size of operation is evident, with larger hay producers reporting to fertilize more often than smaller producers. This is found to be the case for both samples.

Commercial hay producers appear to **cultivate and reseed** their hayfields somewhat more frequently than the consumer groups surveyed.

For example, forty-five percent of all producers say they cultivate and reseed at least every five years. This compares with 35% of the consumers surveyed.

Looking at the comparisons in Table 8, there are apparent differences between the two consumer groups, with dairy producers cultivating and reseeding more frequently than beef producers.

"How often do you cultivate and reseed your hayfields?"

TABLE 8
FREQUENCY OF CULTIVATING AND RESEEDING
According to Sample

	PRODUCER	CONSUMER		
		Overall	Beef	Dairy
	%	%	%	%
Every year	1	5	5	6
Every 2 to 5 years	44	30	27	35
Every 6 to 9 years	30	36	34	39
Every 10 years or more	16	21	26	13
no answer	10	8	8	8

Columns may not total 100% due to rounding.

2.0 HAY SELLING AND BUYING PRACTICES

2.1 Commercial Hay Producers

Commercial hay producers were asked a series of questions to determine their hay selling practices. The first question deals with methods used to sell hay.

It should be noted that at the time of interviewing, 22% of the commercial hay producers surveyed said they were not selling hay. Hence, their responses are not included in Section 2.1 of the report.

Among remaining respondents, selling to established clients is the most frequent method (46%), followed by advertising (36%). Relatively few producers sell their hay through truckers.

"What is the most frequent method you use to sell your hay?" (First three choices read)
"Do you use any other method?"

TABLE 9
METHOD USED TO SELL HAY

	First Mention %	Total Mentions %
To established clients	46	57
By advertising	36	53
Through truckers	6	14
Word of mouth	3	9
Other	2	3
no answer	7	

Includes responses of those producers presently selling hay - 78%.

Selling to established clients is the most popular method across all sizes of operations. On the other hand, advertising and word-of-mouth is more frequent among larger producers.

Respondents who suggested *advertising* as a first or second mention, were asked what form of advertising they use most often.

As shown in Table 10, just over half (51%) of this group u[illegible] newspapers the most often, while 28% use the Feed and Forage Listing Service.

In terms of total mentions, a slight majority of advertisers claim to use at least one of these two methods.

Variation according to size of operation is minor.

(If advertising mentioned).
"What form of advertising do you use most often?" (Choices not read)
"Do you use any other form of advertising?"

TABLE 10
FORM OF ADVERTISING USED

	First Mention %	Total Mentions %
Newspaper	51	67
Feed and Forage Listing Service	28	51
Word of mouth	22	42
Other	-	2

Among those producers who mentioned advertising (Table 9) — 53%

Commercial hay producers were also asked when most of their hay sales usually occur.

As shown in Table 11, on the following page, no one period stands out as being particularly dominant.

"During which of the following periods do most of your hay sales usually occur?"
"Is there any other period of the year where significant sales of hay are made?"

TABLE 11
PERIODS OF SIGNIFICANT SALES

	First Mention %	Total Mentions %
January to March	26	49
April to June	6	18
July to September	35	42
October to December	25	44
no answer	7	

Includes responses of those producers presently selling hay - 78%.

Further analysis of the data shows that there is a slight tendency for larger producers to mention July to December in above-average numbers.

2.2 Consumers

2.2.1 Amount of Forage Purchased

Respondents were asked to estimate the percentage of their total forage requirements that they would purchase, *given a normal crop year.*

As shown in Table 12, on average, dairy producers (41%) claim to purchase over twice as much of their total forage requirements as beef producers (18%).

"Assuming a normal crop year, what percentage of your total forage requirements do you purchase?" (Choices not read)

TABLE 12
PERCENTAGE OF TOTAL FORAGE REQUIREMENTS PURCHASED IN A NORMAL YEAR
According to Consumer Group

	Overall %	Beef %	Dairy %
None	49	62	28
Under 25%	12	13	11
25% - 50%	14	8	23
51% - 75%	6	3	9
Over 75%	19	13	29
no answer	1	1	-
Mean	27%	18%	41%

Columns may not total 100% due to rounding.

Among dairy producers, the percentage of hay purchased tends to increase with herd size, from a low of 25% among those with fewer than twenty-five head, to a high of 46% among those with over seventy-five head. Such differences are not apparent among beef producers.

Consumers were also asked to estimate the percentage of their total forage requirements that they would purchase, *given a dry year.*

As shown in Table 13, both beef and dairy producers purchase a higher proportion of hay in a dry year than in a normal year. For example, among beef producers, we see a 7% increase (from 18% to 25%), while among dairy producers a 12% increase is recorded (from 41% to 53%).

"And what percentage of your total forage requirements would you purchase in a dry year, such as in '85 and '88?" (Choices not read)

TABLE 13
PERCENTAGE OF TOTAL FORAGE REQUIREMENTS PURCHASED IN A DRY YEAR
According to Consumer Group

	Overall %	Beef %	Dairy %
None	49	62	28
Under 25%	4	5	3
25% - 50%	7	5	10
51% - 75%	9	8	12
Over 75%	30	20	46
no answer	1	-	2
Mean	36%	25%	53%

Columns may not total 100% due to rounding.

Variation by herd size is again apparent among dairy producers, with a low of 33% reported among those with fewer than twenty-five head, to a high of 61% among those with over seventy-five head.

Consumers were also asked what type of bales they usually purchase. As shown in Table 14 below, round bales is the most frequent choice among beef producers, while square bales is the most frequent among dairy producers.

Not surprising, these differences are consistent with how consumers normally put up their own hay (Table 6).

"Do you usually purchase round bales, square bales, or standing hay?"

TABLE 14
CUT OF HAY PURCHASED
According to Consumer Group

	Overall %	Beef %	Dairy %
Round bales	44	69	23
Square bales	40	15	62
Standing hay	11	9	13
Whatever is available/all types	3	4	1
Other	1	-	1
no answer	2	3	-

Columns may not total 100% due to rounding.

2.2.2 Source of Information & Time of Purchase

As shown in Table 15, the majority of consumers (51%) normally get information about hay for sale, directly from hay producers. This is particularly true of dairy producers who, as we saw in the previous section, tend to purchase a higher percentage of their total forage requirements.

Advertising also appears to be a relatively frequent source of information, at 32 percent. This is found to be a more common source among beef producers.

These data appear to be fairly consistent with reported methods used by commercial hay producers to sell hay (Table 9).

"How do you normally get information about hay for sale?" (First three choices read)

TABLE 15
SOURCE OF INFORMATION ABOUT HAY FOR SALE
According to Consumer Group

	Overall %	Beef %	Dairy %
Directly from hay producers	51	41	59
Through advertising	32	37	27
From hay truckers	11	11	10
Ag. Rep.	2	3	1
Word of mouth	2	3	2
Other	-	1	-
no answer	3	5	1

Columns may not total 100% due to rounding.
Among beef and dairy producers who purchase hay - 51%.

Consistent with the findings from commercial hay producers, no one period stands out as being particularly strong, in terms of when significant purchases of hay are made.

July to September appears to be the most frequent response among both beef and dairy producers. However, January to March, and October to December also receive comparatively frequent mentions.

"During which of the following periods do most of your hay purchases usually occur..."(Choices read)
"Is there any other period of the year where significant purchases of hay are made?"

TABLE 16
PERIOD OF SIGNIFICANT PURCHASES
According to Consumer Group

	Overall %	Beef %	Dairy %
January to March	(24) 43	(24) 41	(24) 45
April to June	(10) 23	(8) 15	(12) 29
July to September	(39) 49	(34) 43	(43) 53
October to December	(23) 39	(28) 38	(20) 40
no answer	(3) -	(6) -	(1) -

Bracketed figures represent first mentions; non-bracketed represent total mentions.
Among beef and dairy producers who purchase hay - 51%.

2.2.3 Place of Purchase

About one out of five of all consumers surveyed say they purchase hay from out-of-province.

From the comparisons in Table 17, it would appear that dairy producers are about three times more likely than beef producers to do so.

For example, among the overall sample of consumers, about 10% of total hay requirements come from out-of-province. Among beef producers, an overall figure of 5% is calculated, compared to 15% among dairy producers.

"Do you purchase hay from outside the province?"
(If yes) "Approximately what percentage of your hay comes from outside the province?"

TABLE 17
PERCENTAGE OF HAY PURCHASED OUT-OF-PROVINCE
According to Consumer Group

	Overall		Beef		Dairy	
	(21%)	(100%)	(11%)	(100%)	(36%)	(100%)
Under 25%	34	7	45	5	29	10
25% – 50%	28	6	24	3	30	11
51% – 75%	10	2	12	1	9	3
Over 75%	25	5	18	2	29	10
no answer	3	1	-	-	4	2
	100%		100%		100%	
Produce own		49		62		28
Purchase in Sask only		30		27		36
		100%		100%		100%
Mean (out-of-Sask purchases)		10%		5%		15%

Columns may not total 100% due to rounding.

Those buying from out-of-province were asked where they purchase their hay from. The majority (58%) buys from Alberta, a source which is frequent among both beef (55%) and dairy producers (60%).

Manitoba also appears popular, with 43% buying from that province.

2.2.4 Factors Influencing Hay Purchases

Consumers were read a number of characteristics, and asked to rate each in terms of importance in influencing who they will purchase hay from.

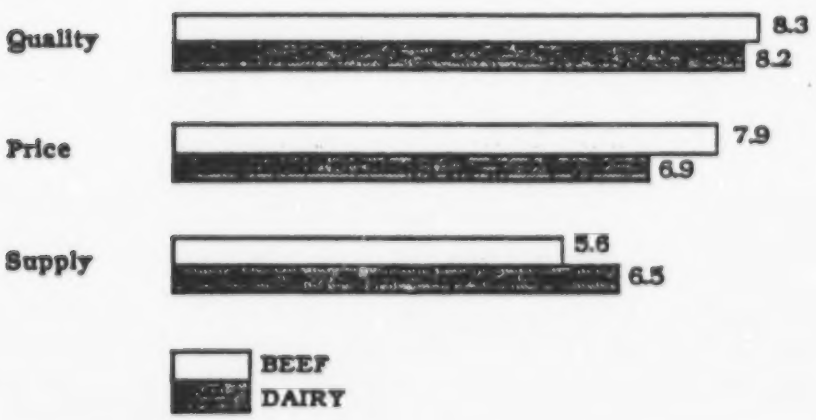
As shown in Figure 1, both groups rank the three factors in the same order, giving *hay quality* the highest rating in this regard (beef – 8.3; dairy – 8.2).

Beef producers award somewhat greater weight to *price* (7.9) than dairy producers (6.9).

Among dairy producers, *steady supply* is rated almost as highly as price. This is not surprising, given earlier findings suggesting that they purchase a higher portion of their total forage requirements.

*"Using a 1 to 10 scale, where a **one** means something is not at all important, all the way to a **ten**, which means something is extremely important, how would you rate each of these characteristics in terms of influencing who you will purchase your hay from." (Items rotated)*

FIGURE 1
IMPORTANCE OF SELECTED CHARACTERISTICS IN TERMS OF INFLUENCING HAY PURCHASES



Consumers who produce hay (85% of the total sample) were also asked whether they would consider buying more of their yearly hay requirements, if a guaranteed supply of quality hay were available.

As shown in Table 18, approximately one out of five (18%) suggest this would have an impact on their decision. Dairy (24%) are more likely than beef producers (15%) to make this claim.

"If a guaranteed supply of quality hay were available, would you consider buying more of your yearly hay requirements, or would this make no difference to you?"

TABLE 18
IMPACT OF GUARANTEED SUPPLY OF QUALITY HAY
According to Consumer Group

	Overall %	Beef %	Dairy %
More likely	18	15	24
No difference	80	82	76
can't say	2	3	1

Columns may not total 100% due to rounding.

There is a greater tendency for those with larger herd sizes to suggest they would consider buying more of their yearly hay requirements if a guaranteed supply of quality hay were available. This is found to be the case for both groups.

3.0 REACTION TOWARD HAY CERTIFICATION

3.1 Level of Support

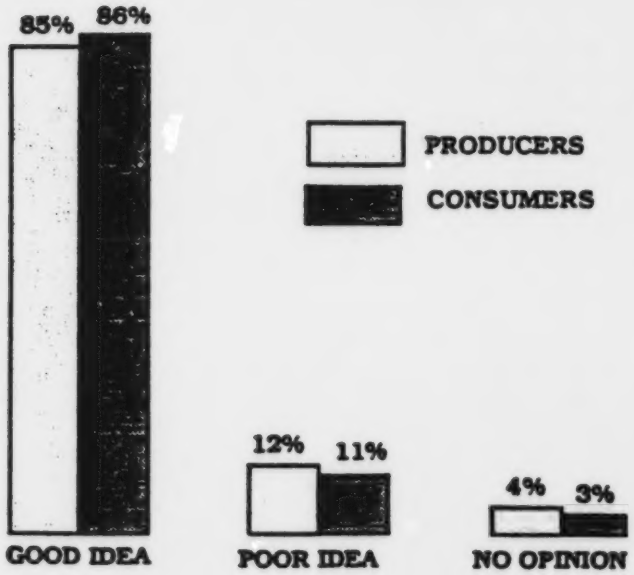
Respondents were read the details of the proposed hay certification system, and asked whether they felt it would be a good or a poor idea.

Most respondents feel such a service would be a good idea. Virtually no difference is detected between the two samples, as shown in Figure 2 below.

"Agriculture Canada is developing a voluntary system for grading or describing hay. The system is called "Hay Certification". A hay producer or buyer wishing to get hay certified would pay a trained technician to physically inspect the hay and sample it. The results would come back in a form with a visual and chemical description of the hay, according to the Agriculture Canada standard. This document could then be used for marketing, setting prices, and so on. I'd like to ask you a few questions about hay certification.

First of all, do you think a service like this is a good idea or a poor one?"

FIGURE 2
REACTION TOWARD HAY CERTIFICATION
According to Sample



Variation according to size of hay operation and herd size is minor. Similarly, among those commercial hay producers presently not selling hay, the vast majority (77%) say the proposed system would be a good idea.

Respondents were then asked to provide their reasoning.

More consistent quality of hay for sale is the most frequent reason for thinking that the service would be a good idea. This is the case across all groups, particularly among consumer groups. Herd size does not appear to be a factor here.

Improved ability to buy or sell hay is a relatively common response across all groups.

All responses are shown in Table 19 below.

"Can you suggest the main reason why you feel it would be a good idea?" (Free response)

TABLE 19
REASONS BEHIND SUPPORT
According to Sample

	PRODUCER		CONSUMER			
			Beef		Dairy	
	(85%)	(100%)	(85%)	(100%)	(87%)	(100%)
More consistent quality of hay for sale	48	42	59	50	61	51
Improved ability to buy/sell hay based on buyer's needs	26	23	23	19	23	20
Allows for price to be set, based on hay quality	16	14	12	10	12	10
Increase integrity of those in the hay marketing industry	5	5	5	4	3	3
Increase opportunities for the export of hay/hay products	2	2	1	1	-	-
no answer	2	1	1	1	1	1
	100%		100%		100%	
Poor idea		12		13		9
no opinion		4		3		5
		100%		100%		100%

Columns may not total 100% due to rounding.

Conversely, *added or unnecessary costs* stands out as the main rationale among producers who feel the system would be a poor idea.

On the other hand, *no need*, and *too much control on the part of technicians*, are the main reasons provided by the consumers who are in opposition.

"Can you suggest the main reason why you feel it would be a poor idea?" (Free response)

TABLE 20
REASONS BEHIND OPPOSITION
According to Sample

	PRODUCER		CONSUMER			
			Beef		Dairy	
	(12%)	(100%)	(13%)	(100%)	(9%)	(100%)
Added/unnecessary costs/ price of hay would increase	30	4	26	3	12	1
No need for quality analysis	17	2	50	6	24	2
Too much control/ say on the part of technicians	17	2	13	2	24	2
Personal sales level would drop	9	1	-	-	-	-
Inconvenient /time-consuming	4	1	8	1	18	2
Hay loses value/quality	-	-	1	-	12	1
Other	17	2	-	-	-	-
no answer	4	1	3	-	12	1
	100%		100%		100%	
Good idea		85		85		87
no opinion		4		3		5
		100%		100%		100%

Columns may not total 100% due to rounding.

3.2 Use of Custom Feed Testing and Ration Balancing Service

Consumers were read details about a possible custom feed testing and ration balancing service, which could become part of hay certification, and asked whether or not they would make use of it. Respondents were told to assume that the cost of the service would be one hundred dollars.

As shown in Table 21, almost half (46%) of the beef and dairy producers surveyed say they would make use of it.

"The hay certification technicians could also be trained to offer custom feed testing and ration balancing. The technician would come out once to sample feed supplies and return again with the results for a consultation and ration balancing. Assuming this service cost $100, do you think you would make use of it?"

TABLE 21
USE OF CUSTOM FEED TESTING & RATION BALANCING
According to Consumer Group

	Overall %	Beef %	Dairy %
Yes	46	46	46
No	49	50	49
not sure	5	5	5

Columns may not total 100% due to rounding.

Among beef producers, the tendency to suggest such a service would be used increases with herd size, from a low of 41% among those with fewer than fifty head, to a high of 59% among those with over two hundred head of cattle.

Among dairy producers, the opposite is true. For example, 50% of those with under twenty-five head say they would use the service. This decreases steadily to a low of 35% among those with over seventy-five head.

Consumers who suggested they would not make use of the service were asked to supply their reasoning.

As shown in Table 22, the majority of beef producers suggesting they would not use it, see the service as unnecessary, in that they already know the quality.

Among the dairy producers, the most frequent reason for not using the service is that they already have it done by another organization, such as a feed company, their Ag Rep., or the University of Saskatchewan.

"Can you suggest the main reason you would not make use of the service?" (Free response)

TABLE 22
REASONS FOR NOT MAKING USE OF THE SERVICE
According to Consumer Group

	Overall		Beef		Dairy	
	(49%)	(100%)	(50%)	(100%)	(49%)	(100%)
Unnecessary/already know	42	21	54	27	24	12
Already done by feed co./ Ag Rep/ U of S	38	19	27	13	56	28
Cost would be too high	12	6	12	6	11	6
Not reliable/don't trust	2	1	2	1	3	2
Other	1	1	-	-	3	2
no answer	4	1	5	3	2	1
	100%		100%		100%	
Would use the service		46		46		46
not sure		5		5		5
		100%		100%		100%

Columns may not total 100% due to rounding.

3.3 Chemical Feed Analysis and Cost for Certification

Commercial hay producers were also asked whether chemical analysis should be an integral part of hay certification, or whether it should be optional.

Views are fairly evenly split over the matter, with 48% suggesting it should be optional, and 39% saying integral. Thirteen percent (13%) withhold an opinion on the matter.

As shown in Table 23 below, larger producers are more likely than smaller producers to feel hay certification should be an integral part of hay certification.

"It is proposed that the chemical analysis become part of the hay certification. Chemical feed analysis would be done by the Saskatchewan Feed Test Lab. Do you think that chemical analysis should be an integral part of the hay certification or should it be optional?"

TABLE 23
NEED FOR CHEMICAL ANALYSIS
According to # of Acres - Producers Only

	Overall %	<160 %	160-320 %	321-640 %	>640 %
Integral	39	36	34	55	45
Optional	48	48	58	42	27
no opinion	13	16	8	3	27

Column may not total 100% due to rounding.

Similarly, views are fairly evenly split over the question of cost for hay certification. Forty-four percent (44%) think seventy dollars is a reasonable price, 37% think it is unreasonable, while 20% are withholding an opinion.

Variation according to size of operation is shown in Table 24 below.

"It has been proposed that a price of $70 be charged to producers for certification of a single lot of hay. This would include a cost of $25 for chemical hay analysis. Do you think $70 is a reasonable price?"

TABLE 24
REACTION TOWARD PROPOSED COST FOR CERTIFICATION
According to # of Acres - Producers Only

	Overall %	<160 %	160-320 %	321-640 %	>640 %
Reasonable	44	45	37	48	45
Unreasonable	37	32	47	45	18
no opinion	20	23	16	6	36

Column may not total 100% due to rounding.

3.4 Service Delivery

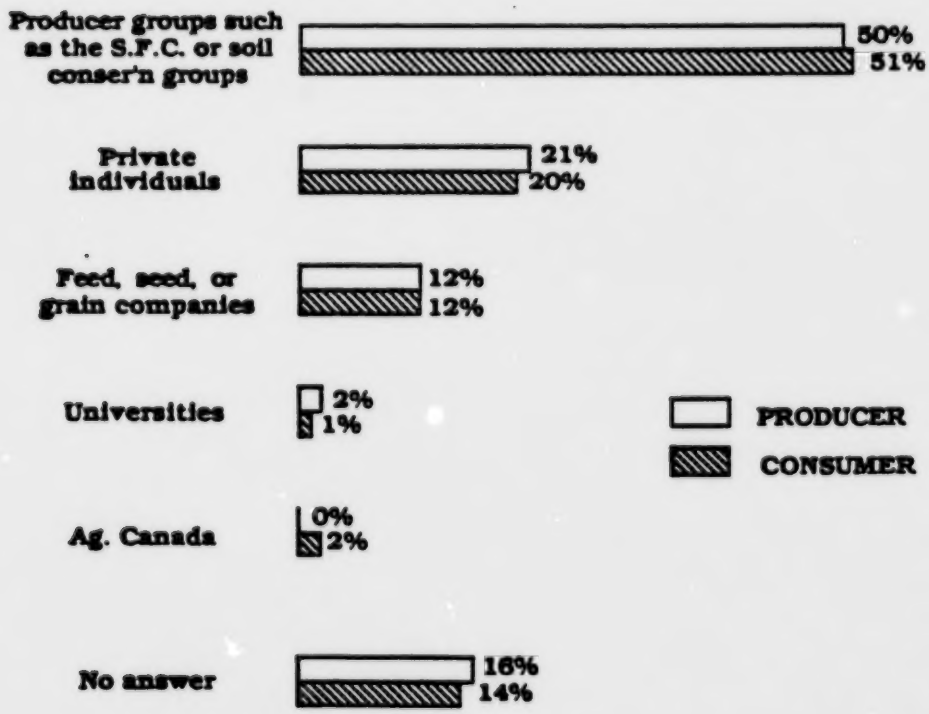
Respondents were presented with three groups, and asked which they felt would do the best job of implementing the hay certification system.

As shown in Figure 3, producer groups such as the Saskatchewan Forage Council or soil conservation groups, is the most frequent response among both groups (producers - 50%; consumers - 51%).

It should be noted that this response is consistently high across all demographic subgroups.

"Agriculture Canada is developing the regulations and training, but hay certification would be implemented by other groups. Which of the following groups do you think would do the best job of delivering the service?" (First three choices read)

FIGURE 3
MOST EFFECTIVE GROUP FOR SERVICE DELIVERY
According to Sample



4.0 SUGGESTIONS FOR IMPROVED MARKETING OF HAY

Fifty-six percent (56%) of all commercial hay producers, and 46% of all consumers, made suggestions concerning ways in which the marketing of hay produced in Saskatchewan can be improved.

Their responses are categorized as shown below.

"Can you suggest ways in which the marketing of hay produced in Saskatchewan can be improved, in order to benefit both buyers and sellers?" (Free response)

TABLE 25
SUGGESTIONS FOR IMPROVED MARKETING OF HAY
According to Sample

	PRODUCER	CONSUMER		
		Overall	Beef	Dairy
	%	%	%	%
Better grading system/analysis of hay/certification	23	18	17	20
Better advertising/listing of hay sellers and buyers	15	17	16	18
Improve trucking/transportation of hay	7	3	4	2
Control price of hay/standardize price	4	3	2	5
Hold hay auctions	2	2	2	2
Better storage for hay in years of surplus/pelletizing	1	1	2	1
Other	6	2	1	4
no answer	44	54	56	50

Columns may not total 100% due to rounding.

RESULTS,

SASK. FORAGE COUNCIL MAILOUT SURVEY

HORSE OWNERS AND ALFALFA PROCESSORS

1. Consumer Survey Results of Horse Industry Questionnaire

Of the 93 questionnaires that were distributed by mail, a total of 38 responses have been received representing a percentage return of approximately 41.0 percent. This is well above expected response levels for surveys distributed by mail, where a level of 15 - 20 percent returns is considered satisfactory. One can only surmise that the significance of the issue of hay marketing and production is of great importance to those involved within the horse industry.

1.1 Size of Facilities

Of the respondents, a large percentage of individuals (68.3 percent) have 10 or less horses at their facility with a very small percentage owning more than 31 horses. Table 1 provides a specific breakdown of respondents based upon size of operation.

Table 1 - Number of Horses Stabled

	<5	6-10	11-20	21-30	31-40	40>
No. of respondents	12	14	8	2	1	1
*% of Total	32	37	21	5	3	3

* % may not add up to 100 due to rounding.

Of interest is that the respondent who had more than 40 horses indicated that a total of 200 horses were located at the particular facility, demonstration that there are some potentially large clients to be served within the horse sector.

1.2 Amount of Total Forage Requirements Purchased Annually

In terms of the amount of forage that is purchased to meet their yearly requirements, Table 2 presents the amounts indicated by size of operation as well as on an overall basis.

Table 2 - Percentage of Annual Hay Requirement Purchased

% hay requirements purchased	Overall	<5	6-10	11-20	21-30	31-40	40>
0	8.0	16.5	-	12.5	-	-	-
1 - 25	13.0	8.5	21.5	12.5	-	-	-
26 - 50	26.0	33.5	28.5	12.5	-	-	100
51 - 75	18.5	28.5	21.5	25.0	50.0	-	-
76 - 100	34.5	33.5	28.5	37.5	50.0	100	-

As can be seen, a large majority of horse owners tend to purchase at least 26 - 50 percent of their yearly forage requirements. This fact would appear logical as the landbase associated with the horse industry is often limited to barn and paddock facilities with limited land or equipment resources available for hay production.

1.3 Origination of Hay Purchases and Purchase Period

As was the case with the beef and dairy producers, those in the horse industry were asked where the majority of their hay purchases were made. Table 3 outlines the results of this question.

Table 3 - Origination of Hay Purchases

	Overall	<5	6-10	11-20	21-30	31-40	40
Manitoba	13.5	7.5	16.0	-	-	-	-
Alberta	9.0	15.5	5.0	12.5	-	-	-
Saskatchewan	77.5	77.0	79.0	75.0	100	100	-

Based upon responses by participants, 22.5 percent of all hay purchases came from outside of Saskatchewan. The remaining 77.5 percent of hay purchased originates from within Saskatchewan.

Of the hay that is sold within Saskatchewan, each individual was asked to provide a regional origination of the forage that had been purchased. Table 4 indicates the percentage of total hay purchases on a regional basis.

Table 4 - Origination of Hay Purchased Within Saskatchewan

	Overall Percentage
East Central	17.0
North East	17.0
South East	14.0
Central	17.0
South Central	20.0
North West	8.5
West Central	3.0
South West	3.5

As a follow-up to how much hay is purchased annually and where this forage originates, a question regarding the time of year when forages are purchased was put forth. The majority of producers (51%) indicated that most of their hay purchases occurred in the July to September period. Both the January to March and October

to December periods were equal in response with a level of 18 percent each and finally the April to June period had the lowest response rate of 13 percent.

Table 5 - Period When Major Hay Purchases Are Made

	Overall	<5	6-10	11-20	21-30	31-40	40>
Jan - March	18.0	9.0	12.5	37.5	-	-	100
April - June	13.0	9.0	19.0	12.5	-	-	-
July - Sept.	51.0	45.5	56.0	37.5	100	100	-
Oct - Dec.	18.0	36.5	12.5	12.5	-	-	-

1.4 Current Forage Crops Purchased and Preferences

When asked what type of hay is normally purchased for their horses, respondents indicated that alfalfa (43.0%) and brome (27.0%) were the most popular preferences. A second question was posed seeking the opinion of the producer as to the type of hay he/she felt should be available to the industry. Again, alfalfa was the most popular choice, capturing 32 percent of the total responses. Brome and grass/legume hay were evenly divided at 23.5 percent each, while 16 percent had requested that timothy hay should be made available.

Table 6 - Current Purchases and Preferences for Types of Forage Available to the Horse Industry

	Forage Normally Purchased	Preferred Forage Availability
Alfalfa	43.0	32.0
Brome	27.0	23.5
Grass/Legume	-	23.5
Timothy	-	16.0
Crested Wheat Grass	11.0	-
Slough Hay	11.0	-
Annual Forage	5.0	2.0
Prairie Hay	3.0	-
Clover	-	3.0
	100.0	100.0

1.5 Characteristics of Importance When Purchasing Forage

Respondents were asked to indicate their opinion as to the importance of a given characteristic when purchasing hay for their horses. The response was provided, utilizing a gradient scale of 1 to 10, with 1 representing most important to 10 which was least important. Table 7 outlines the results.

Table 7 - Importance of Specific Characteristics When Purchasing Forage

	Overall	<5	6-10	11-20	21-30	31-40	40>
Price	3.1	3.2	3.7	2.6	2.0	1.0	1.0
Nutrient Quality	1.7	1.7	1.2	2.1	1.5	1.0	5.0
Availability	2.2	1.8	2.0	3.4	1.5	1.0	4.0
Physical Appearance	3.3	3.1	3.1	4.1	3.0	2.0	3.0
Type of Hay	3.1	3.8	2.7	2.6	4.0	2.0	1.0

Overall, the nutrient quality is an important characteristic when purchasing forage, with the availability of the hay considered of secondary importance. Price ranks behind both nutrient quality and availability as a determining factor in the purchase of hay.

Other factors that the respondent felt were important in the purchase of hay suitable for horses were documented. Clearly the absence of mold and dust in the forage rate highly as important features of fodder used for the equine industry.

Table 8 - Other Important Characteristics of Hay Suitable for Horses

	Overall %
Mold Free	21.0
Dust Free	29.0
Type of Bale	8.0
Moisture	5.5
Method of Baling	5.5
Age of Hay	2.5
Weed Contamination	2.5
Seller Knows Nutrient Quality	2.5
Distance from Producer	2.5
Other	2.5
No Response	18.5

1.6 Guaranteed Supply of Quality Forage: Effects on Amount of Forage Purchased

Consumers were then asked whether or not a guaranteed supply of quality forage would have any influence on the amount of hay that they would purchase relative to current practices.

As shown in Table 9, 42% of respondents indicated that they would be more likely to purchase more hay than they are presently doing, while 55.5% felt that it would make no difference. However, it is important to note that further analysis of this group indicates that 47.5% currently purchase 76 - 100 percent of their forage requirements at the present time, thus making it difficult to buy additional quantities of hay.

Table 9 - Effect of a Guaranteed Supply of Quality Hay on Consumer Buying Decisions

	Overall	<5	6-10	11-20	21-30	31-40	40>
More Likely	42.0	41.5	43.0	50.0	-	100.0	-
No Difference	55.5	58.5	50.0	50.0	100.0	-	100
No Response	2.5	-	7.0	-	-	-	-

1.7 Primary Source of Forage Location and Form Purchased

From Table 10, one can see that previous hay suppliers and other horse owners are commonly utilized in the location of hay for purchase. Advertising was also indicated as an important source, whereas hay truckers are not deemed as key factors in the location of forage.

Table 10 - Sources Utilized in the Location of Forage for Sale

	Overall %
Previous Hay Supplier	30.0
Other Horse Owners	33.5
Advertising	22.0
Other	11.0
Hay Truckers	3.5

In regard to the physical form of hay that is commonly purchased, 55.0 percent indicated that square bales are most popular while 27.5 percent of horse owners mentioned round bales are purchased.

Table 11 - Physical Form of Purchased Hay

	Overall %
Square	55.0
Round	27.5
Pellets	6.0
Standing	6.0
Other	5.5

In regards to the "other" category, respondents had indicated that alfalfa cubes were purchased due to ease of handling and storage in addition to their nutrient quality.

1.8 Past Problems with Purchased Forage

With regard to the types of problems most commonly experienced with purchasing hay in the past, 48 percent of the respondents indicated that hay quality was a problem, with a further 38 percent mentioning availability as a concern. This is of great interest particularly when compared to the previous responses provided to questions relating to the importance of specific characteristics when buying hay. Overall, nutrient quality and availability had been rated 1.7 and 2.2 respectively out of a possible 10-point rating system (1 most important to 10 least important). In addition, Table 8 indicates that 50 percent of producers consider that lack of mold and dust in forage as important in factors in purchasing hay. It would appear that work has to be done in improving the quality of forage provided to this industry.

Table 12 - Problems with Hay Purchases in the Past

	Overall	<5	6-10	11-20	21-30	31-40	40>
Quality	48.0	45.0	50.0	50.0	50.0	-	50
Availability	38.0	46.0	35.0	41.5	-	100.0	50
Consistency	12.0	8.0	20.0	8.5	-	-	-
Other	2.0	-	-	-	50.0	-	-

1.9 Hay Certification Program

The question of hay certification was posed and a brief explanation of the program given. Respondents had to indicate whether they felt that this program would be a good idea or a poor one. As can be seen in Table 13, a vast majority (84%) indicated that they were in favor of this concept. Respondents were also asked to indicate reasons why they felt that this was a good or poor idea. The results are provided in Table 14.

Table 13 - Opinions on Hay Certification Program

	Overall %
Good Idea	84.0
Poor Idea	5.5
No Comment	10.5

Table 14 - Reasons Provided for Opinion on Hay Certification Program

Good Idea	%
Forage Quality	31.5
Nutrient Value Known	31.5
Save Time Looking for Hay	16.0
Increased Market Opportunities	16.0
Guarantee to Buyer	5.0
Poor Idea	
Extra Price of Hay	100.0

1.10 Improvements in the Marketing of Forage

A final question was asked regarding ways by which the marketing of hay could be improved to benefit both buyers and sellers. Table 15 provides the suggestions made by the respondents.

Table 15 - Improvements in Hay Marketing

	(42%)	(100%)
Central Selling Agency	33.0	14.0
Forage Listing Service	22.0	9.0
Hay Auction	17.0	7.0
Hotline	11.0	4.5
Local Hay Dealer	6.0	2.5
Advertising in Magazines	5.5	2.5
Alfalfa Cube Plant	5.5	2.5
No Comments		58.0
	100.0	100.0

As one can see, the concept of a central selling agency for the marketing of hay is deemed to be useful by the horse industry, as is the use of a forage listing service.

2. Results of Forage Processor Questionnaire

A similar questionnaire was distributed to the forage processing industry within Saskatchewan (see Appendix). Due to the small number of processors in the province, only 8 questionnaires were sent out, from which 5 returned their form. The following information provides an overview of the opinions of the processing industry to the questions that were posed.

2.1 Type of Processing Facility

Of the 5 respondents to the questionnaire, all indicated that they operated dehydrated alfalfa processing facilities. One of the plants also indicated that miniature alfalfa cubes are manufactured at their facility, while another indicated that compressed hay is also processed.

2.2 Marketing of Product - Domestic versus Export Sales

In relation to the amount of product that is sold within Saskatchewan, all of the processors indicated that 0 - 25 percent sales occur provincially. Table 1 provides an indication as to the rankings of sales to the various sectors within Saskatchewan by product type.

Table 1 - Ranking of Sales within Saskatchewan

	Dehydrated Alfalfa Cubes	Alfalfa Cubes	Compressed Hay
Dairy	1	1	1
Cow-Calf	2	2	2
Feedlot	3	-	3
Horse	5	-	4
Sheep	6	-	5
Commercial Feed Industry	4	3	6

In contrast, all processors indicated that 75 - 100 percent of their sales were to the export market. Table 2 provides an indication as to the destination of products sold. As would be expected, Japan is the top importer of processed forage produced in Saskatchewan.

Table 2 - Rank of Major Importers of Sask. Processed Forage

	Dehydrated Alfalfa Cubes	Alfalfa Cubes	Compressed Hay
Japan	1	1	1
Korea	2	2	6
United States	3	3	3
Europe	4	4	4
China	6	-	2
Other Provinces	5	5	5

2.3 Physical Form of Forage Acquired for Processing

Of the 4 alfalfa dehydrator processors, 3 indicated that they purchase hay in a standing form while one indicated that round bales are used. The processor who produces alfalfa cubes also indicated that round bales are utilized while the compressed hay processor makes use of both round and large square bales at their facility.

2.4 Types of Forage Utilized and Industry Preferences

In regards to the type of forage utilized, all processors indicated that alfalfa is the major crop used. The compressed hay processor did indicate, however, that they are also utilizing oat greenfeed, timothy hay and lentils cut as a forage crop.

With respect to the industry preferences for forages that should be grown for the processing industry, all respondents indicated that alfalfa should be used. Except for the request by the compressed hay processor that timothy become more available, no other forage crop was listed.

2.5 Time Frame of Forage Purchases for Processing

Table 3 outlines the time frame indicated as the major period of the year when forage is purchased to help fulfill processing requirements. As can be observed, the period of July - September is the major purchase period with April - June ranking second. One of the alfalfa dehydrators indicated that forage is acquired at the seeding of the forage crop and a contract is made between the grower and the processing plant for four years.

Table 3 - Major Time Period when Forage is Purchased

	Overall	Dehy Alfalfa	Alfalfa Cubes	Compressed Hay
Jan - March	14.0	20.0	-	-
April - June	28.5	20.0	100.0	-
July - Sept.	43.0	40.0	-	-
Oct - December	-	-	-	-
*at seeding	14.5	20.0	-	-

A second question was asked relating to when other significant purchases of forage would be made. Only 3 processors responded, whose production consisted of dehydrated alfalfa and compressed hay. As would be expected, all other time periods were indicated equally, except for the July - September period where no purchases were indicated.

2.6 Importance of Specific Characteristics when Purchasing Forage

As had been the case in the horse industry survey, the processors were given the opportunity to rank (1 most important to 10 least important) a set of specified parameters when purchasing forage for processing. Table 4 provides the results of this question.

Table 4 - Importance of Specified Parameters When Purchasing Forage

	Dehydrated Alfalfa	Alfalfa Cubes	Compressed Hay
Availability	2.0	1	1
Nutrient Quality	2.0	2	1
Price	3.0	5	1
Physical Appearance	3.5	3	1
Type of Hay	2.0	4	1

As can be seen, availability and type of forage are important as is the nutrient quality of the product. The physical appearance of the forage seems more critical to the compressed hay processor due to an easier ability to differentiate within a bale as opposed to a pellet or cube.

2.7 Opinion on Hay Certification Program

As has been the case with all of the survey respondents to date, the processors who responded to the question (4 out of 5) felt that the Hay Certification Program is a good idea. When asked to provide reasons why they felt this way, a number of responses were given, as outlined in Table 5.

Table 5 - Reasons Given for Hay Certification Program

- build trust between buyer and seller
- know the feed quality of the forage
- improve efficiency of buying hay due to less time and travel spent locating hay
- improve production by commercial hay producers
- producer rewarded for quality through improved prices.

The reaction to whether or not chemical feed analysis should be an optional or integral part of the Hay Certification Program was evenly divided. Two of the four respondents indicated that this process should be an integral part of the certification procedure, while the remaining processors felt that chemical analysis of forage should be optional.

When asked who should perform the Hay Certification service, three of the four respondents indicated that producer groups, such as the Saskatchewan Forage Council, would be best. One producer felt that the service would be best handled by private individuals.

2.8 Improvements in the Marketing of Saskatchewan Forage

As was the case with all groups surveyed, the forage processors were asked to provide suggestions for the improvement of marketing of forage in Saskatchewan that would benefit both the buyer and seller. Their responses are provided in Table 6.

Table 6 - Suggestions for the Improvement of Forage Marketing in Saskatchewan

- improve hay production capabilities to meet export market (ie. no weed contamination)
- education of buyer on the nutritional quality of forage as opposed to price per ton(tonne)
- increase the number of seminars directed towards hay producers in the production of better crops
- establishment of well-managed brokerage system that sells forage only
- more consistent price by sellers of dehydrated alfalfa products to local feeders.